

hybridization, but that pollen sterility is a physiological condition which may be due to a variety of causes, hybridization and mutability being only two of them.—J. M. C.

Codium mucronatum.—Miss HURD³¹ has made a study of *Codium mucronatum* from Puget Sound material, to establish the characteristics on the basis of which this species may be distinguished from other species, and to determine whether the division of this species into varieties (*californicum* J. G. Agardh and *novaezelandiae* J. G. Agardh) is justified. The study is a careful one and the plates will prove valuable to students of this genus. She suggests a detailed description for the species and concludes that the splitting of the species into varieties on the basis of the mucronate tips of the utricles is not justified, since all of the described types are often found on the same plant.—GEORGE B. RIGG.

Röntgen rays.—KOERNICKE³² finds that a small dosage of Röntgen rays accelerates growth of seeds and seedlings. In larger amounts it has no effect, while in still larger amounts it inhibits growth. In this regard Röntgen rays act like other rays and like toxic materials in general. *Vicia Faba* was especially favorable material for experimentation. Contrary to the claims of SCHWARZ, the effect of a stimulative dose at the seed or seedling stage was lost before maturity was reached. From the results of SCHWARZ, KOERNICKE had thought that Röntgen rays might be applied profitably in practice for increasing yield, but his work shows that this is not the case.—WILLIAM CROCKER.

Trigonocarpus and Ginkgo.—In 1914 SALISBURY³³ published an account of a new species of *Trigonocarpus*, and compared it with the seeds of *Ginkgo*. Later, Miss AFFOURTIT and Miss LA RIVIÈRE³⁴ investigated the seeds of *Ginkgo* and gave reasons for the belief that such a comparison is not valid. SALISBURY³⁵ has published a brief note in reply, pointing out more specifically the reasons for his view, and concludes that in the more important features of general organization the ovules of Ginkgoales, Cycadales, and *Trigonocarpus* exhibit a uniformity of construction difficult to explain except on the basis of affinity.—J. M. C.

³¹ HURD, ANNIE M., *Codium mucronatum*. Puget Sound Marine Sta. Publ. 1: 109-135. pls. 19-24. 1916.

³² KOERNICKE, M., Über die Wirkung verschieden starker Röntgenstrahlen auf Keimung und Wachstum bei den höheren Pflanzen. Jahrb. Wiss. Bot. 56:416-430. 1915. PFEFFER'S Festschrift.

³³ Review in BOT. GAZ. 57:440. 1914.

³⁴ Review in BOT. GAZ. 61:176. 1916.

³⁵ SALISBURY, E. J., On the relation between *Trigonocarpus* and *Ginkgo*. Ann. Botany 30:356. 1916.